

THE
MEDICAL AND SURGICAL REPORTER.

No. 925.]

PHILADELPHIA, NOV. 21, 1874.

[VOL. XXXI.—No. 21.

ORIGINAL DEPARTMENT.

COMMUNICATIONS.

OPIUM VS. BELLADONNA, WITH CASES OF POISONING,

In three separate classes, comprising those cases of opium poisoning treated with, and those treated without belladonna; also, of belladonna poisoning treated with opium.

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(Read before the Ohio Valley Medical Association,
and requested to be published.)

(Concluded from No. 924.)

CASES OF OPIUM POISONING TREATED WITHOUT BELLADONNA.

CASE 1.—Dec., 1866; male, aged 25. Took morphia sulph., $3\frac{1}{2}$ to 4 grains. Symptoms.—At 3 A. M., comatose; pupils contracted; insensibility complete. Treatment. One quart very strong coffee, of which $3\frac{1}{2}$ j. per enema, every ten minutes, repeated four times; also friction to surface by strong men. Recovered. Cincinnati Lancet and Observer, 1867; from Medical and Surgical Reporter; Matt Calvert, M. D., of Miss.

CASE 2.—1867; female, aged 4 days. Took Winslow's Soothing Syrup, $3\frac{1}{2}$ j., in two hours; taken at 6 to 8 A. M.; saw the infant at 6 P. M., ten hours after last dose. Symptoms. Found complete coma; great pallor; skin cold; pupils contracted; respiration and pulse imperceptible; could swallow, by first shaking well. Treatment. Coffee; warm and cool bath, alternately; sinapisms; shaking, and sharply slapping the soles of the feet very often. First evidence of

improvement at 3 A. M., following; gave it breast milk; at 8 A. M. it nursed. Gradually recovered. T. Curtis Smith.

CASE 3.—1868; male, adult. Took tincture opii, $3\frac{1}{2}$ j., at 7 A. M.; seen at 11.45 A. M. Cut his throat twenty minutes after taking, but failed to cut large vessels. Symptoms. Was not drowsy till 9 P. M.; at 4 A. M., next day, was narcotized. Treatment. Strong coffee, brandy, etc. Comatose at 8 A. M.; died at 12 M. J. S. Boyd, British Medical Journal, per Compendium of Medical Science, January, 1869, page 42.

CASE 4. 1871, female, adult. Took morphia acet. C. G. M., 18. Seen some hours after taking. Found all symptoms of opium poisoning. Treatment. Injected into stomach 100 grains of a solution of tannin; subsequently coffee and urine injected; irritants to surface, ice water to face. These continued for two and a half hours, with alternations for better and worse; finally complete recovery. Dr. Model, American Journal of Medical Science, October, 1872, p. 572.

CASE 5. 1872, male, aged 69. Took opii, forty grains. Treatment. Ammonia injected into veins eight hours after taking; so far recovered from this as to walk to hospital, one-fourth of a mile. After admission, at 8 A. M., dose not repeated, croton oil and coffee given. In the afternoon somnolent, sweating profusely; belladonna given, croton oil repeated. Died at 8.25 P. M. McEwen, Glasgow Medical Gazette, per MEDICAL AND SURGICAL REPORTER, Vol. XXVII, p. 434.

CASE 6. 1871, male, aged 30. Took tr. opii, one and a half ounces, several hours before

seen. Treatment. Exercise, counter-irritants of ammon., mustard and brandy freely; stomach washed with pump, and stimulants thrown into it and per anum; later, artificial respiration; for time apparently doing well, when suddenly there was a struggle, and the heart and lungs ceased to act. B. F. Barnes, Ill., MEDICAL AND SURGICAL REPORTER, Vol. xxviii, p. 415.

CASE 7.—1871, male, aged 18. Took opium, three grains. Profound narcotism some hours after taking; could not be waked by shaking. Treatment. Fluid extract verat. viride, ten drops, and eight drops in twenty minutes; vomited in one hour. Gradual recovery. A. C. Carrigan, MEDICAL AND SURGICAL REPORTER, Vol. xxix, p. 161.

CASE 8.—1871, male, adult. Took morphia, three and a half grains. Diagnosis, opium poisoning. Treatment. Fluid extract verat. viride ten drops; vomited freely; well next morning. Ib.

CASE 9.—1873, female, aged 2½. Took pulverized opii two grains; repeated every two hours for three doses, through fore part of night; seen at 4 A. M. following. Given by another, partly by mistake. Symptoms. Profound narcotism present; pupils contracted; respiration stertorous, irregular, four to six per minute; surface cold and clammy. Treatment. Thorough emesis, and the persistent use of strong coffee every few minutes; friction to surface. Recovered. J. C. Bishop, M. D., Middleport, Ohio.

CASE 10.—1874, female, aged 40. Took tincture opii, one and a half ounces; taken in the night, during a somnambulistic walk. Symptoms of profound narcotism soon followed. Treatment. Emetic, which thoroughly emptied the stomach, then gave strong hot coffee every few minutes. Gradual recovery. J. C. Bishop, M. D., Middleport, Ohio.

CASES OF BELLADONNA POISONING TREATED WITH OPIUM.

CASE 1.—1867, male, adult. Took alc. extract of belladonna, five grains. Subject, H. A. Dubois, assistant surgeon U. S. A.; drug taken at 11 P. M., December 28th; no poisonous symptoms till 8 A. M. next day, then found difficulty in controlling movements; staggered; inability to read, or even see the letters; by a strong effort of the will determined what was his trouble; under a powerful effort visited his patients, but did not prescribe. Treatment. Strong

coffee, whiskey, and half grain pills of morphia; these relieved the most urgent symptoms; could not read without pain for days, and the effects did not entirely pass off for two months. Recovered. *Medical Record*, 1867; *Compendium of Medical Science*, 1868.

CASE 2.—1868, female, adult. Took atropia sulph., one and one-half grains. Characteristic symptoms soon set in, but the toxical effects of the alkaloid were counteracted by two hundred drops of tincture of opium given in a period embracing eighteen hours. Recovered. D. Hayes Agnew, *American Journal of Medical Science*, April, 1868, p. 483.

CASE 3.—1868, sex not stated, child, aged 3½. Took atropia, one grain, in three drachms of water. Vomiting occurred, and very promptly symptoms of poisoning. Treatment. Gave, hypodermically, morphia, one-eighth grain, soon followed by decided improvement; pulse fell from 160 to 120; respiration from 30 or 32, to 28; in forty-five minutes the child was conscious and could speak; fully restored in a few hours. Höring. Wirtem. Med. Correspondenzblatt, 1868; *American Journal of Medical Science*, January, 1869, p. 275.

CASE 4.—1868; female, aged 43. Took atropia, grains 3; taken at 8.20 A. M. Symptoms.—Twenty minutes after taking, the hands were tremulous, eyes closed, drowsy; soon became greatly agitated, limbs powerless, face flushed; soon after, a pleasant delirium came on, lasting ten minutes; then slept easily. Treatment over an hour after taking; at that time, face flushed, respiration natural, twitching of hands and feet; purgative enema; emetic of mustard and tepid water, and other emetics freely, but no emesis occurred; enema operated; trismus now present. At 11.15 A. M., unconscious; heavy stupor; eyes closed; pupils dilated; muscles relaxed, excepting trismus; respiration labored; pulse good; this nor respiration counted; morphia, acet., half grain, hypodermically; repeated at 11.40 A. M.; stomach washed, injecting it afterward with ammonia and whisky; no marked effect from the morphia; faradization and artificial respiration; morphia repeated at 12 M.; respirations 14, stertorous; pulse 102, full; morphia seemed to increase narcotism; flagellation; cold; stimulants. Symptoms and treatment but little changed, except omission of morphia, to 11 P. M., when she was slightly conscious, but died of suffocation at 11.10 P. M., fifteen hours after taking the poison. S.

W. Gross, *American Journal of the Medical Sciences*, October, 1869, page 401.

CASE 5.—1869, female, aged 20. Took infusion of belladonna leaves, one ounce, to aqua six ounces, all taken. Symptoms. Violent agitation, incoherent hallucinations, hot skin, pulse hard, 120; pupils widely dilated, fixed; no nausea. Treatment.

R.	Solution of gum,	^{3iv}
	Sydenham laudanum,	^{3j}
	Syr. simple,	^{3j}

Sig. Tablespoonful every half hour.

When she had taken half of it the symptoms had subsided, and could answer questions. No other treatment except enema of senna and salts. Well next day. Dr. Sino, *Bul. de Therap.*, per *Compendium of Medical Science*, July, 1869, p. 76.

CASE 6.—1869, male, aged 13 years. Took atropia sulph., one-eighth of a grain, hypodermically; treatment begun in a half hour. Symptoms of belladonna intoxication commenced in ten minutes, increasing to completion in a half hour. Treatment. Morphia, one-fourth of a grain in an ounce of whisky, repeated in twenty minutes; somewhat relieved in forty-five minutes. In forty minutes the dose repeated, after which the symptoms yielded rapidly. Recovered.

Compendium of Medical Science, July, 1869, p. 80.

CASE 7.—1869, male. Took atropia, one grain; treatment in twenty-five minutes after taking. Symptoms. Seized with vertigo, dryness of fauces, difficult deglutition, retching, pupils dilated, loss of vision, face livid, furiously delirious, pulse slow, feeble. Treated with morphia, one-eighth of a grain, every ten minutes until recovery. Dr. Thos. Fox, loc. cit., p. 81.

CASE 8.—1869. Took atropia, one grain. Particulars not reported, but is referred to in the *Compendium* as fatal, from circumstances preventing the efficient use of morphia. Died. Ib.

CASE 9.—1869, female, aged 32. Took fluid extract belladonna, one drachm. By accident took this dose at 12 m.; saw her at 1 p. m.; found all the symptoms of belladonna poisoning; after stage of excitement, the coma was profound; pulse rapid, feeble; extremities cold; respiration labored. Treatment. Emetic sini sulph.; acted slightly; gave morphia one-half of a grain per os; soon became incapable of swallowing; used sinapisms, flagellation, shaking; ammonia; dry heat to extremities; large enema

of decoction of nut galls and lime water; bowels moved freely; repeated several times in four hours; operation free after each; other treatment continued; conscious after four hours; vomited; improved rapidly after that; in six hours perfectly conscious; took broth; talked freely; after six days well. Dr. T. Curtis Smith.

CASE 10.—1869, male, aged 45. Took atropia, amount not stated; seen soon after taking; no opium used. Symptoms of atropia poisoning well developed, but not profound. Treatment. Emetic, mustard and warm water; vomited; stomach emptied with pump; animal charcoal, four ounces, given; carbonate of ammonia, coffee, ol. ricini next morning; recovered slowly; hair became gray rapidly afterwards; slightly gray before. F. H. Parsons, Braith. Ret., January, 1870, p. 264.

CASE 11.—1869; male, aged 16. Took extract belladonna, two drachms; taken at 11 p. m. Became violently agitated at 12 m., unconscious, then comatose. These symptoms of belladonna poisoning continued till death, at 2 $\frac{1}{2}$ A. M. No treatment used, as death did not seem to be expected by his friends. *Ranking's Abstract*, January, 1870, page 101; Hibbert Taylor, in *British Medical Journal*.

CASE 12.—1869; female, aged 36. Took fluid extract belladonna, two drachms; seen in two and a half hours. *This patient was an opium eater.* Symptoms. Found her lethargic; pulse and respiration normal; muscles extremely relaxed; other symptoms of belladonna poisoning, later. Treatment. Emetic of mustard seed acted feebly, attended with trismus; friction of ammonia to spine; morphia, one grain; some improvement; repeated dose in thirty minutes, with whisky. Gradual improvement, till well. Six months later, the patient had completely lost her old habit; had taken it largely before the accident. Recovered. E. M. Webster, M. D., of Kingsville, Ohio; *Boston Medical and Surgical Journal*, January 13, 1870, page 23.

CASE 13.—1870; male, adult. Took atropia, one forty-ninth of a grain, at 8 $\frac{1}{2}$ P. M., hypodermically. Symptoms. At 10 P. M. found face flushed, head hot, pupils dilated; delirium; restless; dry tongue and fauces; dysphagia; pulse quick; fever. Treatment. Gave morphia; lemonade; cold to head; sinapisms to feet. At 2 A. M., great prostration; better otherwise; gave nourishment; stimulants; heat to extremities. Continued improvement; quite

well next day. This was a very feeble, sciatic patient. E. P. Hurd, of Massachusetts; Boston *Medical and Surgical Journal*, July, 1870, page 41.

CASE 14.—1869, male, aged 65. Took fluid extract belladonna, forty drops, two hours before treatment begun. Symptoms. Found him with cold clammy skin; pulse thready; pupils dilated; difficult deglutition; comatoses; convulsed; delirious. Treatment. Emetic; no emesis; tincture opii, one drachm every hour for three doses, then one-half drachm at longer intervals; improvement after second dose; rational; next morning convalescent. Recovered. J. S. Carpenter, M. D., Pottsville, Pa., Trans. Pa. Med. Soc., per Medical Repertory, August, 1870.

CASE 15.—1869, old man. Took atropia, one-fifth grain. Symptoms. Acid taste in throat; embarrassed movements of tongue; muscular weakness; walking impossible; disturbed vision. Treatment. Tincture opii, ten drops, every ten minutes; each dose diminished the intensity of the symptoms; whole amount of tincture opii taken seventy-six drops. Recovered. M. Behier, *Medical Times and Gazette*, per Cincinnati *Lancet and Observer*, March, 1870, p. 161.

CASE 16.—1870, female, aged 66. Took belladonna liniment, one drachm, at 11 A. M. At 11.30 mind wandering; at 2 P. M. symptoms of belladonna poisoning well marked. Treatment. Emetic failed to act; stomach pumped; coffee; at 2.45 P. M. tincture opii, twenty minims; soon one-third grain morphia hypodermically; calabarized disk to left eye; contracted left pupil; 3.30 P. M. one-fourth grain morphia; coma increasing; 4.30 P. M., morphia repeated; 6.15 P. M., artificial respiration; enema of ammonia, brandy and coffee; also galvanism every four hours. Died at 3 A. M. next day. Dr. Beddoe, *London Lancet*, October, 1870, p. 555.

CASE 17.—1869, female, aged 3 years and 9 months. Took belladonna ointment, the extract thinned with glycerine; seen in one hour. Symptoms. When seen, frantically excited; conscious; pupils dilated to utmost; skin red; pulse 150. Treatment. Tinct. opii, five drops, per enema; used stomach pump, drawing off dark fluid; washed stomach with water till clear. Repeated tr. opii, five drops, per enema, every hour through the night; violent symptoms continued till morning. At 5 A. M., slept

profoundly, continuing for some hours; awoke at 10 A. M.; symptoms abating; at 4 P. M. well. Dr. B. Kavanagh, *Comp. Med. Science*, Jan., 1870.

CASE 18. 1869, male, aged 2 years and 6 months. Same as above, being a child in same family. Symptoms and treatment same as previous case, except the dose of tr. opii used was three drops instead of five. Recovered. Ib.

CASE 19.—1869, female, adult. Took extract belladonna, fifteen grains; seen four hours after taking. Symptoms. Vomited just before Dr. Drake's arrival; perfectly delirious; face swollen and flushed, eyes injected, pupils dilated to utmost; staggered, could not walk; tongue swollen, speaks inaudibly; pulse small, flickering; muscae volitantes. Treatment. Morphia acet., every thirty minutes till three doses; pupils then began to contract; dose then lessened and interval increased, but continued till reason was restored. Dr. Drake, of Osceola, Iowa, *Compendium of Medical Science*, Jan., 1870, p. 162.

CASE 20.—1870, female, aged 4 $\frac{1}{2}$. Took berries of the deadly night-shade, exact quantity not known; taken in the evening; seen next morning. Vomited a little in the evening; little thought of by the parents, not knowing the real trouble; during night slight convulsions; cold perspiration, with difficult respiration; when first seen there was perfect rigidity of body and limbs; pupils fully dilated, insensible and fixed; secretions all checked. Treatment. Morphia, one-quarter of a grain, hypodermically, and warm bath; no relief; repeated morphia in thirty minutes, and gave enema of turpentine and laudanum in white of egg; no effect from treatment. Died at 11. Treatment approved by preceptor. E. C. Fisher, M. D., Clifton, W. Va., being a student at the time.

CASE 21.—1870, sex not stated, aged 6. Took succus belladonna, one drachm; seen in a few minutes. Characteristic symptoms of belladonna poisoning at once. Treatment. Tincture opii, twenty drops, per os, and same per rectum, repeated every half-hour until one hundred and twenty drops were taken; after third dose rapid improvement. Recovered. J. A. Little, *Trans. Ohio State Medical Society*, 1871, p. 89, from Dr. Lee.

CASE 22.—1871, female, aged 56. Took atropia, two-thirds grain; seen soon after. Symptoms those of belladonna poisoning. Treatment. One-half grain morphia hypodermically, and washed stomach with pump; in twenty

minutes gave Magen. solution, twenty-five minims; slight improvement for an hour, then an increase of symptoms; injected into stomach caffeine and strong coffee, also the latter per rectum, then electricity; improvement; gradual recovery. Dr. C. Johnson, Baltimore *Medical Journal and Bulletin*, April, 1871.

CASE 23.—1872, female, adult. Took atropia, one grain; seen two hours after taking. All the symptoms of belladonna poisoning. Drank coffee immediately, and took emetic of mustard; acted well; gave morphia, one-half grain, on arrival, per anum, also brandy and ammonia, sinking rapidly; one hour later gave morphia, one-third grain, hypodermically, repeated in ten minutes; reaction soon begun; ice to head; patient allowed quietude; better soon. Recovered. Millick and Keiper, *Medical and Surgical Reporter*, March, 23, 1872, p. 257.

CASE 24.—1872, female, aged 25. Took atropia, one twenty-fifth grain, morphia, one-fourth grain, hypodermically, together. Symptoms of well marked atropia poisoning followed, as dry tongue and throat, delirium, muscular weakness and tremor, loss of vision, pupils dilated, scintillations, etc. Treatment. Morphia, one-third grain. Rapid recovery. J. M. Finney, *Medical and Surgical Reporter*, August 24, 1872, p. 177.

CASE 25.—1872, male, aged 40. Took liq. atropia, thirty minimis, at 3.30 P. M. Treatment. At 4 P. M., an emetic, which acted; stimulant treatment commenced. At 7 P. M., pupils enormously dilated, pulse rapid, small; respiration slow, skin cold, clammy; then gave thirty minimis of liq. morphia, hydrochlor., and repeated till three drachms were taken; conscious at midnight. Recovered. Dr. MacSwiney, loc. cit.

CASE 26.—1872, aged 4 years. Took berries of belladonna. Severe symptoms of poisoning to insensibility, dysphagia, etc. Treatment. Tr. opii, three minimis every two hours. Total amount taken, fifty-four minimis. Recovered. H. Bemon, loc. cit.

CASE 27.—1872, adult. Took atropia, nine milligrammes. Dangerous symptoms of poisoning followed, and were relieved by thirty-seven milligrammes of morphia. Recovered. M. Abeille, *Medical News*, 1872, p. 204.

CASE 28.—1872, female, adult. Took fluid extract belladonna, one ounce, injected into vagina. Found all the symptoms of belladonna poisoning. Treatment. Washed vagina thor-

oughly; gave tr. opii in small doses. Recovered. Dr. Oakley, *Compendium of Medical Science*, Jan. 1873, p. 34.

CASE 29.—1872, female, aged 1 year and 6 months. Took atropia, amount not certain, nearly a grain. Found well marked symptoms of atropia poisoning. Treatment. Sinapsisms, friction, morphia, one-twelfth of a grain hypodermically, in divided doses. Repeated same amount of morphia, after which gradual improvement and recovery. A. A. Shepherd, Hancock, Mich., loc. cit., p. 270.

CASE 30.—1872, sex and age not stated. Took atropia, amount not given. Treated the case with tincture opii; no other treatment named. Recovered. Thomas Opie, *Southern Medical Record*.

CASE 31.—1874, female, adult. Took extract belladonna, exact amount not known, probably four to six grains. Symptoms. Vertigo, blindness, muscae-volitantes; fell to the floor insensible; pupils dilated widely; mouth dry; lips pallid; face flushed; pulse 140 to 150, full and bounding; eyes injected; respiration increased. Treatment. Morphia hypodermically two-thirds of a grain, also emetic of zinci sulph. and ipecac in warm water; repeated morphia in thirty minutes; also repeated emetic which produced free emesis; soon after this there was evident improvement, which continued to recover. C. H. Tidd, Middleport, Ohio.

CASE 32.—1870, female, aged 5. Took tincture belladonna, one drachm, two hours before treatment. Treatment. Tincture opii twenty drops every thirty minutes for four hours, then every hour for six hours, then fifteen drops three hours later; sleeping quietly in twelve hours; gradually improved; took, in all, tincture opii one ounce. Recovered. Kindly reported to me by J. B. Mattison, M. D., of Chester, N. J.

HOSPITAL REPORTS.

PENNSYLVANIA HOSPITAL.

CLINIC OF DR. R. J. LEVIS.
REPORTED BY DR. JOHN B. ROBERTS.

Transverse Fracture of the Patella Treated by Adhesive Strips.

A patient was admitted into the hospital after the receipt of a transverse fracture of the left patella, from violent contraction of the extensor muscles of the thigh while wrestling.

This seems to be the most frequent cause of fractures of this bone, for, although some writers state that the patella is more often broken by

direct violence, it has certainly been the experience in this hospital that the accident is generally the result of muscular action. Dr. Levis once saw a case where the patient sustained the injury while endeavoring to carry a heavy burden, and instances where it has been produced by the muscular effort of endeavoring to avoid falling backward are numerous.

As a result of this causation, the line of fracture is generally transverse, the upper section of the bone being dragged upward, though of course *direct* violence may break the bone in any direction, and even cause a compound or comminuted fracture.

The upper fragment is usually the larger, and sometimes it would seem as if the bone was torn from the ligamentum patellæ, but this is scarcely probable.

The diagnosis is usually made without difficulty, from the inability of the patient to extend the leg, from the change in contour of the knee, and the displacement upward of the superior fragment.

The displacement at first does not, as a rule, amount to more than a half or one inch, but subsequently, by the contraction of the muscles inserted into the upper portion of the bone, and by inflammatory effusions, the distance is much increased. In this case there was, when the patient was admitted, only about a quarter of an inch between the two fragments, but this has since increased, by the causes alluded to, to a half inch.

Synovitis almost inevitably follows injuries of this character, for the knee-joint becomes involved by the resulting inflammation extending to the articular synovial membrane; hence there is nearly always a good deal of swelling from effusion of synovial fluid, and from inflammatory deposits around the joint. That synovitis is present is readily determined by making pressure at the sides of the ligamentum patellæ, where the joint is most superficial. If pain is produced, as it is in this case, it is an evidence of involvement of the serous membrane lining the joint.

It is for this reason that the surgeon should not be too anxious to apply immediately any form of fracture dressing in fractures of the patella. His first duty should be to combat the almost inevitable arthritis by applying antiphlogistic remedies, and by keeping the parts at rest. This is best secured by placing the limb in a fracture box on an inclined plane, and then also elevating the trunk somewhat, in order to relax as much as possible the quadriceps extensor femoris, which has a trunkal origin. This fracture is perhaps the only one in which it is better not to adopt prompt measures to secure apposition, but to allow sufficient time for the subsidence of inflammation.

Fractures of the patella are rarely repaired by true osseous union, by reason of the difficulty in obtaining correct apposition, the impaired circulation, and the continual bathing of the affected structures with synovia; in fact, the fragments are somewhat in the condition of the

olecranon and the head of the femur after fracture; and that bony union seldom occurs in these regions is well known.

Although the cure may be as perfect as possible, yet when the patient has walked about on the limb for a time, it is not infrequently found that the fibrous tissue holding the fragments together has stretched, allowing a separation of from one to two inches. This, fortunately, does not occasion material lameness, and the only disadvantage experienced is a certain degree of weakness, with a tendency for the affected limb to become more easily fatigued than the sound one.

In treating transverse fractures of the patella, the chief indication is to obtain and preserve perfect coaptation of the pieces, which is rendered difficult on account of the action of the extensor femoris and the effusion beneath the patella. An error is sometimes committed by making too much pressure upon the upper and lower sections of the bone, without bringing any to bear directly over the centre; the effect of this procedure is to cause the fragments to tilt away from each other in front, so that, though in apposition at the articular surface, they gape apart superficially.

Dr. Levis has devised an apparatus which answers the requirements admirably, and secures most excellent results. There is first a broad pad of leather placed under the knee, then a semicircular pad adjusted above the superior fragment of the patella, with straps attached, which, running through rings in the sides of the first pad, are firmly buckled to a piece of leather extending under the sole of the foot. By this contrivance any amount of power can be brought to bear, and the more the patient endeavors to flex the knee, the greater is the traction upon the upper fragment, which is the one that the muscles tend to displace.

This apparatus is of the greatest service in cases where the injury has occurred in men of powerful muscles, but is hardly required under ordinary circumstances, and may not be at hand when required. Hence it is perhaps preferable to fulfill the same indications with the long strips of adhesive plaster, which shall be employed in the present instance.

The centre of one strip is placed above the patella, to substitute the semilunar pad, the ends are then carried down behind the calf of the leg, where they cross; after which they are brought forward until they again cross in front of the ankle, and finally pass under the foot. A second adhesive strip is placed under the lower fragment, to steady it; and lastly a third directly over the top of the knee, to prevent lifting up of the fragments in the middle. The dressing is completed by running a bandage from the toes all the way up to the hip. In many cases, this dressing will not require renewal during the whole course of treatment.

The leg of the man shall now be placed on an inclined plane for about ten days, after which, as the position will become wearisome, it shall be placed horizontally, and the extensor

muscles kept relaxed by propping up the body. In the course of about four weeks, a fixed dressing of plaster or silicate of soda shall be applied, and the patient permitted to go about on crutches.

Such is the rationale of the treatment usually adopted in simple fractures of the patella; but in compound fractures, which happily are rarer, the treatment is necessarily more complex, and often requires the greatest care on the part of the surgeon.

MEDICAL SOCIETIES.

THE AMERICAN PUBLIC HEALTH ASSOCIATION—SECOND ANNUAL SESSION.

The second annual session of the American Public Health Association commenced November 11th, at 12 o'clock, in the hall of the College of Physicians, this city. Among the prominent members of the association present were Stephen Smith, M. D., Health Commissioner of New York, president; Dr. E. Hains, Registrar of Vital Statistics, secretary; Dr. John H. Rauch, late Sanitary Superintendent of Chicago; Dr. Edwin M. Snow, Superintendent of the Board of Health, Providence, R. I.; Dr. Ezra M. Hunt, president of the New Jersey Sanitary Commission; Dr. J. J. Woodward, surgeon United States army, Washington; Dr. J. S. Billings, surgeon United States army; Dr. B. C. Miller, Sanitary Superintendent of Chicago; Dr. Desault Guernsey, of Amenia, New York; Dr. Mænnheimer, Sanitary Inspector, Chicago; Dr. J. J. Quinn, Health Officer of Cincinnati; Dr. Thomas L. Neal, Health Officer of Dayton, Ohio; Dr. S. J. Jesson, Health Officer of Pittsburgh; Dr. Samuel C. Busey, of Washington; Dr. C. F. Rodenstein, Sanitary Inspector, New York; Dr. J. M. Woodworth, Supervising Surgeon United States Marine Hospital, Treasury Department, Washington; Dr. Heber Smith, Supervising Surgeon, Marine Hospital, New York, and Dr. J. M. Toner, of Washington, D. C.

The President, Dr. Stephen Smith, made a few introductory remarks relative to the progress of the work of the association during the past year.

Prof. Henry Hartshorne then made an address of welcome, after which he read a paper on "Excessive Infant Mortality of Cities and the Means of its Prevention."

J. R. Black, M. D., of Ohio, next read a paper on "The Influence of Hereditary Defects upon the Health of the People, with suggestions in regard to Prevention and Eradication." From this paper we make the following abstract:

He said that the doctrine may now be said to be established that organization and function are one, or that there is in the body no independent spirit or principle apart from that inherent in the various forms of organized mat-

ter. The popular exclusion of this doctrine in questions of hygiene and of ethics, or the trust reposed in addressing every reformatory effort of this kind to an abstract ethereal entity either in or above ourselves, is justly chargeable with the terrible indictment of being the main influence by which mankind have been made the most pain-stricken, the most sickly, the most frequently and fearfully deformed, and the most likely to die at an untimely period, and as malefactors in torment, and for the vindication of law, of all other animated beings.

It has caused worthy persons to believe that afflictions and sickness are sent, not brought upon ourselves, and that while it is a binding duty to care for the sick, the deaf, the maimed, the idiotic, and the insane, it is scarcely thought to be obligatory in a public or personal sense to prevent, through purely mundane instrumentalities, any or all of these evils from ever afflicting our race.

A hereditary defect may imply a disease directly transmitted, as in syphilis or scrofula; or a deformity, as in harelip, or simply tendency to some disease, as in insanity or tuberculosis. The way in which ordinary forms of hereditary defects originate is not difficult to comprehend. It is often practically demonstrated to every competent observer, especially in the large cities.

As a rule, the residents of a salubrious country district are freer from taints of blood and defects of organization than those of a city, and a removal of persons into the latter place produces an impairment in health of a transmissible quality. The digestive organs are the first of the vital harmonies to fail from bad habits of life.

If those habits be continued for a generation or two an inbred weakness of these organs will become an inheritance of the offspring. If the infringement of vital law consists of great mental strain, or in the continued and excessive use of stimulants and narcotics, some form of nervous impairment will ensue, which, if prolonged, may end in insanity or predisposition to attacks of nervous disorder.

If the syphilitic taint is engrafted upon the blood, this, with insufficient out-door exercise, and the long-continued breathing of impure house air, will be sure to give rise to pulmonary consumption.

Those who have given the laws of health any attention are aware that there are few persons who do not violate them, nor is obedience at all impracticable.

Of late the achievements of science have actually tended to produce an increase in the number of degenerate men and women, because every one does not know and act for himself in sanitary matters, but relies on the knowledge confined to a few scientists. The latter cannot manipulate health, vigor, and good constitutions into their fellow-beings.

The first and great requisite to prevent all this is knowledge of what constitutes true vigor,

sympathy, and health. Not a very few persons are of the opinion that these conditions are very well known to the popular mind. Observation has led to a very different conclusion. Many have gained vague ideas on the subject most frequently from those who have more vanity. A few thoroughly understand the purpose of one or more of the conditions of health, and, perhaps, attach an undue importance to them. This knowledge, to be useful, needs to be personal and thorough; no mere elementary smattering to which the mind may passively assent, but such a deep and thorough familiarity with the subject which will enforce the conviction that the alternatives of pleasure or pain, health or sickness, long lives or short ones, are, except from chances infinitesimally small, wholly in our power. Precisely that which prevents sickness will also prevent the stamping of an inherent defect upon the organization.

Dr. Richardson, of this city, at the conclusion of the reading of Dr. Black's paper, made a few remarks on the subject of hereditary diseases, which he argued was the effect of a law of nature, the opposite of the "survival of the fittest," and which he had formulated three years ago as the "extinction of the unfit."

Dr. Samuel Osgood, of New York, spoke of the hereditary tendencies in the disposition of children which he had noticed in his pastoral duties. He had asked whether hereditary tendencies were easier to check than those of a personal origin, and was glad to hear that they were. As to the survival of the fittest, he contended that that was not always the case. The worst men and brutes very frequently outlived the best of their fellows.

A paper on "The Health of the Tenement Populations and the Sanitary requirements of their Dwellings," by Edward H. Janes, M. D., of New York, was next read by the secretary, as Dr. Janes was not present.

The next paper was a report upon the death-rate of each set in Michigan, and comparison with "Dr. Farr's Life Tables of Healthy Districts of England," by H. B. Baker, M. D., secretary of the State Board of Health. Dr. J. S. Billings presented a paper on hospital location and construction, from which we make the following extract:—

Experience has shown that large and costly hospitals, even on the pavilion plan, are not necessarily free from the evils indicated by the word "hospitalism;" and practical trial, in our late war, repeated and confirmed more recently in Europe, has led to the recommendation that hospitals should be temporary wooden structures, intended to last but ten or twelve years. The good results obtained in our large military hospitals were not alone due to their temporary character, for the morbid element due to length of occupation did not have time to develop in them. They were better located than civil hospitals, being in the country, where there was plenty of room and fresh air. The class of patients was better, the control over them more efficient, and they were more readily classified

than in civil life, thus lessening the evil (to which I shall presently refer) of placing a number of men in one room, with different diseases and wants.

When cases of xymotic disease occurred, tents were largely used, and the more they were employed the better the result. In an economical point of view, it is evident that if one-half the money required for brick or stone structures was used to erect plain balloon-frame wooden buildings, and the other half were invested at ordinary rates of interest, at the end of about twelve years the amount of money on hand would be what it was in the beginning, the old buildings could be removed, and the process repeated, thus giving a new hospital every twelve years. The necessary buildings for the care of two hundred patients should be constructed for about \$50,000. The smaller the number of patients, the greater the cost per bed. Thus a hospital for one hundred patients will cost about \$35,000, for fifty patients \$12,000, etc. Our large metropolitan hospitals usually are, and should be, connected with medical schools, and, on account of accessibility, it is generally considered necessary to place them in or very near the city, where space is limited and costly. Dr. Billings doubts very much whether this supposed necessity exists, and whether it would not be possible to place hospitals five or ten miles away from the city, where they could have ample space, and place the medical colleges with them.

The paper also states many special advantages which pertain to floating hospitals, a class of structure of which more use could be made. It is suggested that a floating hospital might be constructed on flat-bottomed boats, radiating from a central triangle or polygon. Such a hospital could most conveniently be arranged for three hundred beds or less, and where space can be more conveniently obtained on water than on land would serve an excellent purpose, but the temporary character of the structure must be insisted on.

Two valuable papers, one on the "Sanitary Relations of Hospitals," by William Pepper, M. D., the other on "Hospital Architecture, and the Perfect Ventilation of Hospital Wards," by Carl Pfeiffer, of New York, were next read, and, together with all the preceding papers, referred to the Committee on Publication.

The last hour of the afternoon session was passed in a conference of sanitary officers and others upon methods and experience in the public health service. The subject was introduced by Professor Le Conte, who read a paper on the subject of the organization of municipal boards of health. The gentleman prefaced his remarks with a quotation from a recent letter from Paris, France, in which the neatness of Paris streets was described. Prof. Le Conte said the fundamental cause of most of the complaints in regard to the inefficiency of officials arose from the fact that those in authority were chosen without due regard to their fitness for the duties to which they were assigned.

The speaker then presented a plan for the formation of the board, which would do away with many if not all the evil results of the present system. He recommended that the members should comprise three classes of citizens: First, students of sanitary science, to be appointed or recommended by some responsible medical organization; second, business men eminent for prudence and thoroughness in the discharge of their duty; and third, politicians or men familiar with the workings of the municipal departments. The duties of the first would be to determine and order what is necessary to the public health; the second to see that it is done with the least possible inconvenience and expense to citizens, and the third to procure the necessary appropriations.

The afternoon session was then adjourned.

EVENING SESSION.

The evening session opened at half-past seven o'clock, with a large attendance. A fair proportion of the audience were ladies. Hon. Morton McMichael presided, and introduced the exercises of the evening with an address. At the conclusion of the honorable gentleman's address, Rev. Samuel Osgood, M.D., was introduced, and delivered a discourse on "The Relations of Health and Higher Culture."

The speaker, after noting the difference between modern society and the society of the ancients, said that the demands upon us had increased until we were in danger, as a race, of becoming nervous, sickly, and discontented. Health, he continued, was a part of higher culture, for without a sound body there could not be a sound mind. If life was the continuous adjustment of outward and inner relations, then health could only be obtained by a patient study and religious following of nature's laws. Whatever might be the aspirations of the soul, our knowledge must come through the senses, but unless the senses were perfect in action and thoroughly trained, the mind could not be advanced. Reference was then made to the bad methods of cooking food in this country. He said our vices and follies come in great part from what goes into the mouth. The cannon and the sword had at times done terrible work, but the pipe and the bottle, the cigar box and the whisky cask, were likely to beat them both.

Prof. S. D. Gross, M.D., then read an elaborate discourse upon "The Factors of Disease and Death after Injuries, Parturition, and Surgical Operations," a paper on hospitals in their relations to public health interests, and the economy of perfect care of the sick and hurt. In his treatment of the subjects, Dr. Gross particularly dwelt upon the necessity of employing the most scrupulous neatness in all surgical operations. In speaking of the effects of bad drainage, mention was made of the appalling epidemics which raged for a time in a ladies' school at Pittsfield, Mass., and later at a hotel in Washington. The poisons of infectious and cutaneous diseases were next treated.

The speaker related many instances in which the poisons of various diseases were communicated from person to person in an almost unaccountable manner. The specific poisons of cholera, diphtheria, small-pox, scarlatina, were referred to as particularly tenacious and potent. The average mortality from zymotic diseases was 26½ per cent of all deaths.

In treating of hospitals the Doctor said very plainly that the mortality in most of them was frightful. The Episcopal Hospital and the Hospital of the University of Pennsylvania were referred to as well planned. He said, however, that no single ward should have more than six or eight beds, and no hospital should accommodate more than one hundred patients. The Doctor referred in warm terms to the necessity of erecting convalescent hospitals, where patients who had passed the crisis of disease could recover their strength without danger of infection from persons afflicted with other diseases. The discourse concluded with a graphic description of the condition of the tenement districts of great cities and the means whereby they might be renovated.

On motion, a vote of thanks was unanimously tendered to Rev. Samuel Osgood, D.D., and Dr. Gross, for the interest they had afforded.

The association then adjourned.

Second Day.

The association convened at nine o'clock. President Stephen Smith, M.D., occupied the chair; Dr. E. Harris, secretary. The first paper presented was on the subject of "Building Ground in its Relation to Health and Disease," by Ezra M. Hunt, M.D., president of the Sanitary Commission of New Jersey. It states that the condition of the ground has very much to do with all questions of health. The character of the soil, the degree to which it can dispose of all that comes in contact with it, whether in the form of gases of animal or vegetable decay, or of pure and impure liquids, all have intrinsic and vital bearings upon human health.

Where natural transformations are in no wise interfered with by art it is wonderful to see how processes involving productions inimical to health are so conducted as to be entirely consistent with vigorous existence. While decomposition is the rule, evil therefrom under natural conditions is the exception. While, for instance, enough carbonic acid is produced each day to kill all the inhabitants of the earth, yet it is so well managed as not to interfere with the health of man as animal. But the very moment a spot comes to be builded upon it is by necessity placed in abnormal conditions.

The building clears the ground of that herbage which had no unimportant sanitary office in appropriating the products of the decay. It covers it from sunlight and sun heat, and necessarily makes its condition as to these quite different. It interferes with the range of the winds, and modifies the immediate thermometric and hygrometric condition of the atmosphere. It throws the rain-fall into streams upon the

ground around its sides, rather than allowing it to diffuse itself as it does in drops.

It is believed that one of the causes of the prevalence of such fevers as typhus and typhoid in the winter, is that the greater inner heat of houses causes the currents of air from the surrounding ground to set to them, under the general law of currents as affected by heat. If the soil air is polluted by sewerage or only by the interruption of those processes which Nature has instituted for purifying it, we are sharers in that contaminated air.

The fact of water in the ground is more apparent than that of air, but still its relations thereto are underrated in its sanitary bearings. There is a depth varying with the soil and locality at which the ground water is in general intended to fill up the space between earth particles. But in several feet of the ground nearest to the surface it is intended that the soil should have both air and water in circulation. Between them and heat there is a correlation and conservation which is conducted as wonderfully and as scientifically below ground as above it.

This condition, when uninterrupted, tends healthward, but when suspended contaminates the ground. The capacity of the ground for air is already shown, and by expelling the air from dried earth, or, in other words, by pouring into it water, we find its capacity for water. Such grounds as we are familiar with will thus take in fifty per cent. in volume of water, and even most marble will hold four per cent. The paper further states that in cities we need more dry-earth system. Perfect under drainage is the first great need of most cities. Regulations of cellars, and of all other holes below the surface, is the next great study.

We must get the homes of the people on a better foundation than damp, water-soaked, air-polluted, filth-burdened ground.

Remarks on Dr. Hunt's paper were made by Professor Henry Hartshorne, of this city; Dr. John H. Rauch, of Illinois; Dr. Ray, of this city; Dr. Bell, of New York, and Dr. John A. Stewart, of Baltimore. A motion made by Dr. Hartshorne, that the paper should be referred to the Publication Committee, was carried.

Dr. S. C. Busey, of Washington, D. C., presented a report upon the gathering, packing, transportation, and sale of fresh vegetables, fruits, competent inspection, and free markets for producers.

Dr. Busey said it was his intention to briefly invite the attention of the association to a few suggestive inquiries, with the view of securing, through a competent committee, a thorough consideration of the effects upon public health of the deterioration of fresh vegetables and fruits as offered for sale in the markets of the principal cities of this country, and how far this deterioration is attributable to the manner of gathering, mode of packing, and transportation from the farm or garden to the city markets.

Masses of consumers could not be supplied with vegetables and fruits in the same state of freshness and perfection as the rural population,

for all must admit that, under the most favorable conditions, with every requisite care, many vegetables and fruits rapidly lose freshness, flavor, and nutrient qualities. In our American cities, the summer intestinal disorders and digestive troubles usually begin with the introduction of certain fresh vegetables. The influence of improper hygienic agencies of foul exhalations at this time of the year was conceded, but intestinal diseases frequently found their cause in that which is ingested.

Even among very young children, the intestinal diseases are frequently directly traceable to the ingestion of unwholesome fruits and vegetables; nor is the nursing exempt from the danger, even though the deleterious influence may only reach it through the defective milk supply of the mother, feeding upon immature or deteriorated vegetables and fruits. Intestinal diseases, both among adults and children, are comparatively rare in the farming regions, and both classes of the rural population, adult and infantile, are more generally consumers of fruit and vegetables, and suffer less detriment therefrom, than like classes of the population of cities.

The paper then describes in detail the processes by which vegetables are made unfit for food, and concludes by recommending a system of competent sanitary inspection as a remedy for the imposition practiced in the sale of fresh vegetables, entrusted to officials skilled in the art of gathering and packing, and in the transportation of vegetables. He also advocated free markets for the producer.

On motion of Dr. John H. Rauch, of Illinois, the paper of Dr. Busey was referred to the Publication Committee.

Invitations were accepted from Dr. Kirkbride, physician in charge of the Pennsylvania Hospital for the Insane, and from the authorities of the Jewish Hospital, to visit those institutions.

The association then adjourned until half-past 2 o'clock.

AFTERNOON SESSION.

At the afternoon session Dr. Edwin M. Snow, superintendent of health, Providence, Rhode Island, occupied the chair. The first paper, by Dr. E. Harris, of New York, "A report upon the vital statistics, and the methods of public health administration in the cities and large towns of North America," was not read, on account of its extreme length, but was referred to the committee for publication. Dr. Joseph M. Toner, of Washington, D. C., then read an elaborate treatise on "Conditions and accidents which endanger, limit, or prevent vaccination from giving full protection from small-pox."

From this paper we make the following abstract:

Vaccinators in Great Britain are required to stand an examination as to their qualifications before receiving an appointment. I apprehend that great benefit would accrue to the people of the United States if the public vaccinators were appointed by State and city governments.

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but assert the conviction of not only every medical man, but of every intelligent citizen, that a properly performed and successful vaccination, whether with humanized or animal virus, is as complete a protection against small-pox now as it ever was, and is a more perfect prophylactic than we possess against any other known disease.

Spurious Vaccination.—This general head may comprise all we have to say on deviations in the character of vaccine virus, and deviations from the normal course of the true protective vesicle. Perfectly good vaccine lymph, even in the primary vaccination, may produce a spurious pustule, and consequently secure no immunity from small-pox, and it is the duty of the vaccinator to remedy and detect this accident. If the papular state be hastened, the vesicle will be illy formed, and the lymph opaque and unfit to use in propagating the disease, and does not promise complete protection. The centre of the vesicle in such a case is not well defined, and the regular stages of the early development have been interrupted, and the areola either does not form or is not of normal appearance. A condition must always be suspicious in the development of any undue itching set up about the second or third day. Where the papules assume a conoidal shape about the fifth day, and have a straw-colored or opaque lymph, or broken, ragged, weeping vesicle, with an ill-defined areola about the sixth or seventh day, it can at once be pronounced as spurious. Vaccination may be retarded somewhat in its course, but I think it can never be accelerated beyond a day or so without destroying its protective character.

When the reading of this paper was concluded, Dr. Moreau Morris, of New York, said that the first point seemed to be how to get vaccine virus. So far as his experience extended he was satisfied that humanized lymph was equally protective with bovine. Concerning the collection of virus, its use, and its introduction, he referred to the mode of collecting virus used by physicians, and said that he believed the vaccine should be kept at an even temperature, and not preserved beyond a certain length of time. Physicians should be assured that the system had been thoroughly saturated with the virus before regarding the vaccination as protective.

Dr. Snow stated that out of five hundred children vaccinated by him only one had afterwards taken the small-pox.

Dr. Toner's paper was, on motion, referred to the Committee of Publication, after which Dr. Edwin M. Snow read a paper upon the question: "Does Small-pox Become Epidemic?" After reviewing the apparent epidemics of small-pox which had visited American and European cities, from time to time, the Doctor said: It seems that we may safely conclude that the small-pox of the winter of 1872-73 did not possess the important characteristic of a true epidemic, of being widespread over the country at the same time. We understand by

an epidemic influence some cause of disease which is widespread in its effect upon the people, which is independent of the ordinary or sporadic cause or causes, and which in itself and by itself has some power toward producing disease. Take for illustration: When Asiatic cholera is truly epidemic there is widespread over the country an influence which, of itself, tends to produce cholera, and which, in connection with local causes, does produce it, and without which the cholera cannot exist, even though all the local causes may be present. Can we conceive of any influence that can be directly called, in connection with small-pox, epidemic? One hundred cases of small-pox occur at the present day without contagion, either direct or indirect. My conclusion is that the great prevalence of this disease in Philadelphia in the year 1871, and in other cities, from time to time, had no connection with any true epidemic influence, but was due solely to the great number of cases of disease existing at the same time in a crowded city.

The hour for conference, which was set apart at a previous session, having arrived, the discussion was opened by Dr. Kirkbride, who said that he agreed fully with those who objected to old hospitals, but he thought a new hospital could be made out of an old one by taking out the plaster and thoroughly renovating the building. He preferred large permanent buildings, for he believed that if rightly constructed they were much more efficient than temporary cottages or pavilions. For heating he recommended the use of steam; it circulated in every direction and was completely under control.

In regard to ventilation, he believed that pure air could only be secured in two ways, either by a fire or a fan. Windows were of no importance to ventilation. There was not sufficient movement in the air, with all the windows open, to secure good ventilation. With a fan, perfect ventilation could be obtained without doors or windows. He believed that the best constructed and best managed hospital was always the cheapest in the end.

Dr. John M. Woodworth, of Washington, D. C., said the causes which render a hospital unhealthy were due to the emanations of diseased persons. Wounded or separated surfaces were particularly sensitive to these poisonous influences. The speaker had the honor of recommending to the Government the pavilion plan, and believed it one of the best in use. The only strictly permanent parts of a hospital should be the executive departments, the kitchen, store-rooms, etc. The remainder should consist of detached buildings, placed at a distance from each other of not less than twice the height of the buildings. Each floor should contain but one ward, and if two floors and wards were admitted, the ventilation should be separate for each ward.

Dr. Ray, of Philadelphia, said that he believed a forced ventilation was absolutely necessary. The idea of leaving it to the natural motion of the air appeared to him very childish.

Concerning hospital construction, he was gratified to find the matter was attracting so much attention. Numerous hospitals were being erected in all parts of the country, and the question as to what plans were the best should be settled as soon as possible. Dr. Ashurst had almost lived in a hospital for fifteen years, had given such institutions much time and attention, and although pavilion wards were excellent, both in theory and practice, yet he did not think the objections urged against permanent buildings valid. He thought that in large cities they would be in every way preferable. The Doctor then alluded to the impression which seemed to have gained credence among many that hospitals were imperfect, were little better than pest-houses, and worse than nothing. He called attention to the fact that they were generally filled by the poor of the city, and if their cases were treated in such residences as the city poor inhabit the mortality among them would be far greater than that possible even among the worst managed hospitals. He believed that a large proportion of the hospitals in this country were much better than it was generally supposed. It would be manifestly unfair to compare the statistics of general surgical practice with hospital statistics. Those who were sent to hospitals generally were so saturated with poisons emanating from crowded tenement districts that they possessed but little vitality, and were unable to withstand the shocks of surgical operations or the ravages of disease.

Dr. J. S. Billings said that it was folly to expect the medical staff of a hospital to superintend the hygienic departments. He thought this duty should devolve upon a superintendent appointed for the purpose.

On motion it was resolved that Dr. Bell's paper should be read at half past 3 o'clock to-day.

On motion the reading of Dr. Brown's paper on "Yellow Fever on the Dry Tortugas" was deferred, as the author was absent and time pressing.

The next paper was on the "Causation of Scarlatina, with reference to the contagious and epidemic attributes, as illustrated in the course of that disease in the twenty-fourth ward of New York." Dr. C. F. Rodenstein, the author, stated that there would not be time to read the treatise. He then explained that by a series of experiments he had discovered in one locality that the disease was spread almost entirely by the drinking water.

Benj. C. Miller, M. D., sanitary superintendent of Chicago, then briefly sketched his paper on the "Methods of Treatment of Gases from Rendering Tanks, and the Disposal of Tank Offal." He stated that if the progress in the future was equal to that which had been made in the past, there could be little cause for complaint against the packing-houses of Chicago. Adjourned.

EVENING SESSION.

The exercises began at half-past seven o'clock, Dr. W. S. W. Ruschenberger in the chair. The

first paper in the regular order of business was on "Practical Applications of Chemistry in the Public Health Service," by Professor Charles F. Chandler, M. D., LL.D., but, on account of the absence of the author, the discourse was omitted.

General E. L. Viéle, civil engineer, presented a paper on "Principles and Practice in Drainage and Sewerage, in Connection with Water Supplies." The speaker said that it sometimes seemed to him that it required more skill and true courage to conduct a sanitary campaign than to marshal an army. Of all the problems presented by the subject, none were more important than those connected with drainage and sewerage. Water was unceasing in its activity, ever destroying and renewing. It should be studied everywhere, in the forest and in the fields; but, more than all, it should be studied in the city. The portion which was retained in the soil was the cause of much of the disease which afflicts mankind. The after-effect of malarial diseases was then alluded to, showing that though the patient might recover, it would be almost impossible for him fully to regain his former health.

A report on the condition of some parts of Salem, Mass., was then quoted, showing that near portions of flat land, where waste water was allowed to collect, many fatal cases of typhoid fever occur every year. General Viéle then read a report of a recent meeting of the Board of Health in this city, showing that even Philadelphia was not immaculate in a sanitary respect. He said the key of a practical system of drainage was the topographical nature of the country. He wished it understood that drainage was for the purpose of carrying off the surplus water of the soil. Sewerage was intended to carry off the waste water of towns and cities. The two could seldom be combined. The streets and avenues of a town should be run in such a direction as to facilitate natural drainage. If this had not been done in the first place, under-ground drains should be run in the direction of the original water courses. In New York miles and miles of streams permeated the original topography, and now, without drains to replace them, acres and acres of buildings had been erected on the island. Every dwelling should have drains around it, connecting with some general outlet. The chief source of the great fever epidemics was an undrained soil. Experience had shown that in the country, in insalubrious districts, the laying of drains had always been followed by a decrease in the death rate. In the country the wells were generally little better than reservoirs for waste water. The use of hydraulic cement would obviate all this, and the overflow of the cesspools should be made to filter through charcoal.

Allusion was also made to the construction of mill dams in the country, by which water was kept standing which should be in motion. The rushing torrents of our rivers were everywhere stopped for the purpose of obtaining water-power. The soil in all directions would in-

variably become permeated by surplus water, and the bottom of the dam was also covered with refuse. The evil extended over the entire country. What is the remedy? The speaker would not have a single factory stopped; he would increase the number, and, if possible, consume every drop of water for the uses of manufacture. But he would have the dams so constructed that the water could not escape from the bottom or sides, and so arranged that every particle of vegetable matter could be removed.

Speaking of sewerage, General Vielé said that even with abundance of water the sewerage of almost every large town and city was defective. The problems connected with sewers were numerous and intricate. The great cities of London and Paris had labored for centuries to provide for the rapidly accumulating population. The principle trouble had arisen from the fact that the plans were not large enough in the first place. As well expect the veins of a child to hold the blood which courses through the veins of the man, as to expect sewers made for a town to carry off the waste water of a city. The plan of sewerage to be effective must not only be comprehensive in design, but must be based on an anticipated growth of population. The principal points to be considered were: First, the original configuration of the ground and natural valleys of drainage; second, the artificial changes of the natural surface by the grading of streets and avenues; third, the rainfall or amount of water discharged from the clouds during the year upon the area to the sewers; fourth, the water supply or amount of water distributed to the inhabitants daily. The main difficulty was what to do with the accumulation of the sewers. The various theories proposed and the few practiced were next cited. Captain Lanor had invented a system which would be worthy of attention if it could be carried out successfully. The cases in this country where the sewage of towns was deposited in rivers above where other towns or cities procured their supply of water were next referred to. The speaker concluded by saying that the progress made in sanitary reform during the last decade was a happy augury of what might be expected in the future, but the field was large and the laborers were few.

Professor Edward Orton, president of the Ohio Agricultural College, next read a discourse on "Certain Relations of Geology to the Water Supplies of the Country." The speaker said that the difference between geology and sanitary science was that the geologist studied the water supply as a whole; the sanitarian only as an element of man's health or disease. The springs which issue from the mountain glen were generally very pure. The compounds of soda, iron, lime, or magnesia, were often present in what was supposed to be pure water. Mineral substances held in solution were often factors of disease. There was, however, a distinct class of substances of organic origin which many streams took up. These substances

were seldom poisonous, as vegetable matter held in solution was much less harmful than when allowed to escape through the air. Animal matter in solution was, however, very poisonous. Cases were cited in which whole families, and sometimes streets of families were stricken with fever by drinking water impregnated with animal matter.

In regard to the effect of geological structure on the water supply, the speaker said that in some parts of Ohio much of the supply came from what is called the drift. There were sections in which the surface was composed of the "blue clay," which was almost impervious to water. In other sections the "blue clay" lay at the bottom; above it was a porous rock which acted as a filter, so that the water from that region was particularly pure. Speaking of wells, the Professor said there was a great deal of misapprehension in regard to subterranean waters. A little calculation would show that subterranean streams, as popularly imagined, were very rare. The porous rocks were the natural filters, and if they were given sufficient time they could change the water of a sewer to sparkling spring water. Yet it should not be supposed that clear water was necessarily pure any more than cold air is necessarily pure. The conclusion which geology turned over to sanitary science was that drift wells were generally so contaminated as to be prolific sources of evil. Fevers and pestilence were less to be dreaded than those insidious agencies, which lower the tone of the system, and leave it open to the attacks of disease. In answer to the question, "Where shall we find pure water?" he would answer from wells, from springs, and running streams, but these must be carefully guarded. If wells were rightly located and constructed they would yield pure water.

On motion a vote of thanks was tendered to General Vielé and Professor Orton for their admirable discourses.

Third Day.

The association reassembled at nine o'clock. President Stephen Smith, M. D., occupied the chair. Dr. H. B. Baker, secretary of the Board of Health of Michigan, presented the association a portfolio containing specimens of poisonous wall-paper collected in different parts of the State. Prof. J. LeConte, of this city, said he was glad the subject had been opened, and called attention to the indiscriminate use of poisonous substances in agriculture. He thought the matter should be referred to a scientific commission.

Dr. John M. Woodworth said that every man of science in the United States viewed with horror the extent of this abuse. He moved that the Executive Committee should be requested to consider the propriety of appointing a special committee to confer and report on the subject. This was carried unanimously.

A communication from Dr. Francis Bacon, of Yale College Medical School, inviting the asso-

ciation to hold its next annual meeting at New Haven, Conn., was laid on the table.

It was announced that the subject of slaughter houses in large cities would be discussed some time this morning.

Stephen Smith, M. D., of New York, then read a paper on "The Reciprocal Relations of the Public Health Service and the Highest Educational Qualifications of the Medical Profession." From this we make the following abstract: This review of the state of the medical art during the early periods of Roman history conveys a suggestive and useful lesson. If we were to search our statistics for evidences of the rank and position of the medical profession, as we search the Justinian code for substantial proofs of the position of the medical profession at Rome in different periods of history, we would find the highest conception of a physician to which American law had attained was defined by competent legal authority as follows: "The term 'physician' may be applied to any one who publicly announces himself to be a practitioner of this art, and undertakes to treat the sick either for or without reward" (Ordonnax). We might very justly infer from this definition that medicine as a science and an art was unknown in this country, and that medical practice was placed on the same plane as the most common trade, and our conclusions from these data would not only be logically correct but they would be historically true. Before the law medicine has occupied the position of the most ordinary handicraft, and has been subject to the same legal restrictions and obligations. While the historian who consulted only our statute books might reasonably conclude that scientific medicine had no recognition and hence no existence in the United States for one hundred years, our literature and our institutions would give ample evidence of not only the existence of medical science and medical art, but of its activity. A more rational conclusion to which the philosophical historian would come would be that scientific medicine secured and maintained whatever rank it held by its own unaided efforts.

After expressing a hope that in future the term physician might be better defined than in the past, the Doctor continued: It requires but little penetration to discover that there is a growing confidence in American communities in preventive medicine. Public health service can never inspire the proper degree of confidence unless it is sustained by medical science and medical art, in their highest degree of development. This science wears an organization with every needed scientific appointment, which shall be capable of searching out all the hidden sources of disease, and be of service in warding off pestilence, or mitigating its severity. It will also seek out and correct all those conditions which tend to deteriorate the physical condition of each generation, which impair development, and which diminish longevity. Its real efficiency and success must depend primarily upon the state of development of the medical sci-

ences, the extent to which such service relies upon these sciences, and in their application in practice. The relations between the two, health source and the development of scientific and practical medicine, were assumed by the writer to be reciprocal, inasmuch as they were so intimately related that it was impossible for the former to advance without a corresponding advance of the latter. The paper concluded upon an elaboration of this statement, finally closing with a hope that the Centennial of American Freedom should also see the centennial of Public Health Service, and mark its close union with an advanced medical profession.

Dr. Frederick R. Sturgis, M. D., of New York, followed with an exhaustive paper upon "The Relation of Syphilis to the Public Health," after which Dr. George M. Beard, of New York, presented a paper on "Hay Fever, or Summer Catarrh." This paper shows that, from facts which Dr. Beard has gathered, he is obliged to make deductions diametrically opposed to all existing theories respecting hay fever. He regards it a complex, and not a simple disease. The first factor is a nervous temperament. The second is heat following cold. The third factor is some exciting cause, as dust, cinders, hay (fresh mown), etc. None of these exciting causes are alone competent to produce hay fever. A person who has no predisposition to it cannot take the disease from any one of the exciting causes. Indigestible food may superinduce sick-headache in persons with a weak stomach, but the same food will not give sick-headache to those who are very robust. It is most frequent in persons of nervous and nervo-bilious temperaments, and is confined to the temperate zone. Nervous patients are more benefited by a trip South than consumptive patients. It is hereditary. There is no other disease of which the hereditary character can be more distinctly proved by statistics. It is peculiar to modern civilization. It is increasing steadily as nervous diseases are increasing. The symptoms of the disease are markedly of a nervous character. The suddenness of the symptoms, the instantaneousness by which they may be cured, all point to the nervous character of hay fever.

An important element in the production of the disease is, next to predisposition, heat following cold. Where heat is steady, as in the South, hay fever and all nervous diseases are rare. In the absence of predisposition the exciting causes are powerless to produce the disease. It may come on in a mild form by exposure to heat or confined air at any time of the year. Like other nervous diseases, it acts viciously, and is benefited by the tonic influence of mountain and sea air. The remedies which are most beneficial in hay fever are mere tonics. The plan of treatment which the Doctor proposes is, first, to prevent the disease; the patient should early in the spring begin a course of tonic treatment. It is probable that such a treatment would have the effect, with many cases, of bridging over the season, or, at least, of making the attacks milder. When the dis-

case appears the great dependence must be on local treatment, combined with tonics. The Doctor, after naming some of the medicines which might be administered, said the theory that infusoria in the nasal organs was the cause of this disease could not be proved. It had been shown that infusoria were found in the nasal organs at all times, and even if they were found during the progress of the disease, no one could prove that they were the exciting cause. It was the common boast of the hay-fever army that the disease was peculiar to the intellectual classes. They rejoiced that however terribly they suffer, they are at least in good company. It was certainly true that the majority of cases were of a finely organized type. They were simply the persons who suffer from nervous diseases of all kinds. Concerning the pollen theory he would only say that it was entirely untenable.

The Doctor concluded by recommending a course of tonic treatment as a means of prevention, and if that failed, mountain air and local treatment as a means of cure.

John C. Peters, M. D., of New York, read a paper upon "The Stealthy Introduction and Spread of Infectious Diseases in Large Cities."

Influenza (the first disease mentioned in the paper), Dr. Peters said, has generally been regarded as the very type of an atmospheric affection, arising from some distemperature of the air, or from a special agent profusely developed in the skin, like ozone. But Parkes correctly concludes that influenza cannot be caused by a gas, for no gas could be spread very far or wide without extreme dilution, and utter dispersion and destruction. He also suggests that it cannot arise from any molecular matter driven through the air like the pollen or odor of plants, such as causes hay or rose catarrh. The conclusion is almost irresistible that the agent or cause of influenza cannot depend upon one primary and single origin. All the phenomena of its spread show that it must, in its transit, constantly and copiously reproduce itself, somewhat like the catarrhal poison of measles. There must be an incessant reproduction of the agent in each new place where it shows itself. This reproduction must either take place in the air, or in the bodies of the sick. If it increases in the air, then some force successively changes the elements of the atmosphere, like in the formation of ozone, or else the increase is a vital one and constantly in the enormous development of some infectious substances.

To account for the mode and prolonged spread of influenza, we must believe that the particles of the body pass off in myriads from each sick person, and either infect other persons in their immediate neighborhood while in a fresh and moist state, or else after they have dried up and become small and light, so that they can float through the air to greater or less distances and become revivified by breathing or swallowing in other persons. A careful examination of the history of the disease shows that the rapidity of its progress has often been exaggerated. Oc-

casionally its advance has been very swift, yet not to such an extent as is commonly assumed, while sometimes it has even traveled slowly. It is said to have overspread Europe in six weeks, but more frequently it has required over six months. It has on some occasions taken weeks or months to spread from England to Scotland, but in 1832 needed no less than eight months to spread over Germany. Though proceeding in direct lines it does not always attack all points alike. In coming into cities it generally attacks a few families at first, and then spreads rapidly. A vast amount of superficial observation has clouded over the real natural history of the disease.

The history of hay fever and dandy fever was then traced, and the Doctor continued: The West Indies may now be regarded as the focal area of yellow fever, whence it is distributed to other parts of the world, even including New Orleans, Mobile, Pensacola, and all parts of the United States. From 1674 to 1850 it had never been known in South America south of the river Amazon, doubtless because trade with the West Indies was then little carried on, but it had frequently appeared in the United States. It is permanently present in Cuba, St. Thomas, and St. Domingo, doubtless maintained by the filthy habits of the natives and the heat and malaria of the climate. It has also been sent from the West Indies to Barcelona, Gibraltar, Lisbon, Oporto, France, and even directly to England. It is generally communicated to ships by persons and clothing, but especially by the filthy water and mud of yellow fever ports soaking into the holds of vessels. Its infectious nature at times becomes one of its most destructive features.

Typhus, typhoid, and relapsing fever, measles, scarlet fever, whooping cough, small-pox, and cholera, were then briefly considered, and concluded the paper.

On motion, Dr. Peters' paper was referred to the Publication Committee.

A paper upon "Suicide in large cities, with reference to certain sanitary conditions which tend to prevent its moral and physical causes," by Allan McLane Hamilton, M. D., of New York, was referred to the Publication Committee, without its being read.

The Association then adjourned to 3 o'clock.

(To be continued.)

Treatment of Whooping Cough.

M. Maximin Legrand, in *L'Union Médicale* for Oct. 8th, refers to the successful treatment of whooping cough and hysterical coughs generally, by sulphurous treatment, in the Hospital St. Charles, at Nancy. M. Parisot, the head physician, gave him particulars of the case of a child who, twelve days after the whooping cough had declared itself, was placed in a sulphur vapor bath and completely cured. Whenever M. Parisot sees that the cough is taking on a convulsive character, he has recourse to the sulphur vapor baths, and almost invariably overcomes this distressing symptom.

MEDICAL AND SURGICAL REPORTER.

PHILADELPHIA, NOV. 21, 1874.

D. G. BRINTON, M. D., Editor.

The REPORTER aims to represent the Profession of the whole country, and not merely sectional or local interests.

Hence, Reports of the Proceedings of Medical Societies, Correspondence, Notes, News, and Medical Observations from all parts of the country are solicited and will be gladly received for publication.

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The Editor disclaims responsibility for any statement made over the names of correspondents.

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115 South Seventh Street,

PHILADELPHIA, PA.

ON POISONING BY WALL PAPERS.

So much attention has been directed to this subject lately, that a firm of manufacturing chemists in New York, Schneider, Bell & Co., have addressed an open letter to Wilson & Fenimore, of this city, on the subject of the alleged poisonous qualities of the coloring material known as Paris green. According to their theory, the charges made against the use of this material are without proper foundation. They say: "Paris green poisons only by actual and visible contact. It is not volatile; it throws nothing off; on the contrary, there are but very few substances of equal weight with it. An ordinary flour barrel will contain about six hundred pounds of dry Paris green, and would require constant effort to keep even the finest particles afloat in the air. When applied to paper it is in paste, so to speak, the particles adhering to each other and to the paper by reason of the size added to the mixture. The quantity of Paris green upon the paper of an ordinary sized sleeping-room does not exceed two pounds, and this, it must not be forgotten, is in a dry state. Now to show the utter absurdity of the claim that this small quantity of say two pounds, in a dry condition, affects the health of occupants of rooms when it thus appears upon the walls, permit us to state the following: In our factory it is no unusual occurrence for us to have spread upon drying tables at one time, in different stages of the drying process, six thousand or eight thousand pounds of Paris green, the vapors arising therefrom being like unto a fog in all parts of the room. Our men go in the room and around the table stirring the mass for hours together, without experiencing any inconvenience, and oftentimes they may be seen in cold weather sitting in this room and close beside a steaming hot table, covered with Paris green, eating their dinners." They also say that the color is perfectly odorless, and that though the acetic acid used may give off nauseating fumes, the Paris green has no smell."

Now, as touching on the one hand important manufacturing interests which ought not to be attacked unnecessarily, and on the other the most vital interests of domestic life, this question merits careful consideration. The greens used in coloring wall paper are Scheele's green, which is an arsenite of copper, prepared by dissolving arsenious acid in a solution of carbonate of potash, and decomposing the arsenite of potash thus produced by adding sulphate of copper; and Paris green, which is an acetosarsonite of copper. According to the above letter about two pounds of this compound of arsenic and copper, both poisonous metals, may be on the surface of the paper in an ordinary sized room. This is extremely dry, and in a state of so fine levigation that in spite of its weight every draught of air may be supposed to mingle a fraction of it with the atmosphere of the room, and thus lead to its inhalation or absorption by the skin.

Now we have known constitutions in practice which could not bear the one-sixtieth of a grain of arsenious acid daily, used medicinally, without serious abdominal disturbance. Furthermore, in opposition to the statements in the letter above quoted, Professor BLOXAM, of London, says that the use of the arsenite of copper in coloring feathers and textile fabrics has proved "very injurious to the health of the work-people" (*Chemistry, Inorganic and Organic*, p. 277).

Professor TAYLOR states that although this compound is insoluble in water, it is sufficiently soluble in the acid mucous fluids of the stomach to be taken up by the absorbents and carried as poison into the blood. He mentions that dressmakers sometimes suffer severely from handling artificial flowers so colored; but adds the important observation that not all, but comparatively few are so susceptible to the influence of this toxic compound as to suffer from its presence (*Medical Jurisprudence*, p. 158). Dr. DRAPER, in the *Report of the State Board of Health*, of Massachusetts, says that many paper

printers cannot work more than two or three weeks at a time, with arsenical pigments, without incurring alarming symptoms. According to Dr. HIRT, of Breslau, more than half the pregnant women engaged in working with this material abort before the child is viable.

In the face of these trustworthy data, and many more of a similar character which could be adduced, we cannot accept the views of Messrs. Schneider, Bell & Co. On what other theory can be explained a case such as the following, reported in the *Lancet*, October 17, by Dr. H. G. ALLBUTT, of Leeds?

"A young married lady had great nervous prostration, with excessive excitement and various forms of hysteria; there was broken sleep at night, watering and weakness of the eyes; a bitter metallic taste on the lips; loss of natural appetite, and often great thirst. She could not walk far without being quite worn out; and then suffered from some palpitation of the heart. Worst of all, however, was the excessive vomiting, not only after meals, but during the night. Nothing seemed to be of any avail in the treatment of these various symptoms; but at last I was led to examine the wall of the room, and I found the light green paper to contain a large amount of arsenic. I ordered all the paper to be taken off, and a non-arsenical one to replace it. With a change of air my patient recovered her health, and on her return home she continued to live in the same room, but never with any return of the symptoms. I must not forget to state that this lady before being taken ill lived in a room in the same house, which, however, had not a green wall-paper. It was only when she removed into the other room that the symptoms manifested themselves. On the removal of the paper they all disappeared."

The proximate cause in such instances cannot be overlooked, and it were much better for manufacturers to accept the alternative of supplying safe pigments.

NOTES AND COMMENTS.

Mercurial Friction in Syphilis.

A correspondent of an English exchange states that Dr. Panas, of Paris, prefers mercurial frictions to the internal administration of

the drug, for the following reasons:—It acts more rapidly, as proved by the rapidity with which salivation is produced; the mercurial course is considerably shorter than by the other modes of treatment; mercury employed in this way has the advantage of not irritating the stomach, and if it be desirous to prescribe the bin-iodide of mercury, the effect desired may be produced by the simultaneous administration of iodine internally, and that of the mercury externally, with less risk to the patient than by the administration of the bin-iodide alone by the stomach; he at the same time employs astringent gargles to prevent excessive salivation.

Boldo.

Yet another South American plant, with an odd name, applies for admission to the *Materia Medica*. This time the new comer is introduced by Messrs. Dujardin, Baumetz, and C. L. Verne.

Boldo is a tree found in Chili, of a height of five or six feet, isolated on mountainous regions, with yellow blossom and a verdant foliage. Its barks, leaves, and blossom possess marked aromatic odor, resembling a mixture of turpentine and camphor. The leaves contain largely an essential oil. It contains an alkaloid which is already called "boldine." Its properties are chiefly as a stimulant to digestion and having a marked action on the liver. Its action was discovered rather accidentally, thus: Some sheep which were liver-diseased were confined in an enclosure which happened to have been recently repaired with boldo twigs. The animals eat the leaves and shoots, and were observed to recover speedily. Direct observations prove its action, thus, one gramme of the tincture excites appetite, increases the circulation, and produces symptoms of circulatory excitement, and acts on the urine, which gives out the peculiar odor of boldo.

Fracture of the Patella.

The correspondent of the *Irish Hospital Gazette* reports the treatment of this accident as adopted in the Hôpital Lariboisière. It does away with all apparatus, much to the comfort of the patient, and perhaps to the saving him the expense of one, if he is obliged to find his own. The plan is simply to place the affected limb on an inclined plane, and to keep it steady by means of a few turns of a roller, without striving to bring the broken fragments together, a measure perfectly useless, as whatever is done

the surgeon can rarely expect anything more than a fibrous union, which, after all, does not much interfere with locomotion. What this plan studies to avoid is stiffness of the knee-joint, which so frequently follows prolonged immobility of the limb.

Agency of the Half-Yearly Compendium.

The agency of this periodical, previously in the hands of Mr. Hatch, has been discontinued. Those who received it from him are requested to apply directly to this office.

CORRESPONDENCE.

The Ophthalmological Congress.

HEIDELBERG, Sept. 28th, 1874.
ED. MED. AND SURG. REPORTER:—

The Eleventh Annual Congress of the Ophthalmological Society of this city, assembled September 26th, went into session at 10 A. M., and adjourned yesterday afternoon, September 27th, at 5 P. M.

The attendance, although good, Germany being well represented, was not so large as usual, as can be seen from the list of those present, Drs. Knapp, H. Bendell and your humble servant being the only representatives from the United States, whilst England had none, and Ireland but one, in Dr. Swanzy, of Dublin.

After an appropriate speech by its President, Professor Donders, the Society was called to order by Dr. H. Knapp, acting Vice President, with Dr. Hess as Secretary.

The names of those present, as far as I could ascertain, were: Donders, Utrecht; Arlt, Vienna; Becker, Heidelberg; Knapp, New York; Hess, Mayence; Zehender, Rohstock; Leber, Gottingen; Moos, Heidelberg; Rothmund, Munich; Meyer, Paris; Klein, Vienna; Michel, Erlangen; Thoma, Heidelberg; Swanzy, Dublin; Bendell, Albany; Nagel, Tubingen; Horner, Zurich; Sattler, Vienna; Raab, Vienna; Alexander, Darmstadt; Wilfensch, Wurtzberg; Kines, Heidelberg; Baumeister, Berlin; Schmidt, Marberg; Brettauer, Trieste; Berlin; Stuttgart; Welz, Wurtzberg; Manz, Frieberg; Kruger, Frankfort; Czerny, Frieberg; Bökmann, Christiania; Völkers, Krel; Meyer, Carlsruhe; Just, Zittau; Turnbull, Philadelphia.

The first paper was by Dr. Klein, of Vienna, on "Sympathetic Affections of the Eye following Cataract Operations." The subject was fully worked up, and the different questions involved were discussed by Professors Becker, Arlt, Horner and Meyer.

The second, by Dr. Rothmund, of Munich, on a somewhat similar subject, viz: "The Contraindications for performing Peripheric Extraction (Graefe's) for Cataract," was remarked upon by Professors Becker, Arlt and Horner.

The third, by Dr. H. Sattler, of Vienna, "Concerning Choroiditis accompanying Herpes Zoster Frontalis," was illustrated by carefully prepared drawings, and was of peculiar interest, showing an immense amount of labor, which served to demonstrate the subject completely.

The fourth, by Dr. Alexander, of Aachen, on "Neuritis and Neuro-Retinitis."

The fifth, by Dr. Kines, of Heidelberg, was the most interesting and novel, and served to illustrate "The Changes occurring in Blood effused into the Anterior Chamber."

The sixth was—by Dr. Nagel, of Tubingen, who read an elaborate paper and series of calculations explanatory of a proposed change in the present system of numbering our test glasses (now in inches) according to metres, without necessitating a change in the tools of the optician, by adding fractions to the already existing numbers. After a lengthy discussion, in which Professor Donders took an active part, as well as Becker, Horner and Knapp, the subject was postponed until the next day, when it was considered impracticable and laid over until next year, seemingly much to the satisfaction of all present.

Dr. H. Knapp, of New York, next gave a description of two new ophthalmoscopes, a modification of Snellen's lid clamp, and a hook for removing foreign bodies from within the globe. The new ophthalmoscopes were much admired, and it will not be long before the single-disk instrument will be in general use on the Continent. Your readers have already had an account of the instruments just mentioned, in the MEDICAL AND SURGICAL REPORTER.

The remaining few minutes before recess were occupied by Professor Arlt, of Vienna, who, as usual, gave us something interesting. He explained, in a few words, how a blow upon the eye often produced a simultaneous rupture of the sclerotic and choroid at the posterior portion of the globe seen on either side of the optic disk. He recalled, by a sketch, the characteristic picture showing the concentric lines of rupture seen with the ophthalmoscope through the transparent retina on one or the other side of the place of entrance of the optic nerve.

He considered the force, if coming from directly in front (according to the anatomical relations of the eye), would not be transmitted to the posterior portion of the globe, but, meeting with resistance there, it would be expended above and below, and so cause the bulging strain which, acting on the weakest portion of each coat, showed the lines of rupture in their usual position.

The meeting adjourned at 1 p. m., and in an hour resumed its sitting at the clinical rooms of Professor Becker.

Here Professor Horner, of Zurich, showed some microscopical preparations, and spoke at length "Concerning Capsular Cataract," and the changes noticed in such diseased lenses.

Dr. Thoma, assistant to Professor Arnold, made some remarks, and illustrated under the microscope "The Dependence of the Emigration

of the White Blood Corpuscles upon the State of the Tissues." (Concerning this interesting subject I will write you at some future time.)

Last, but by no means least interesting, were the remarks of Dr. Raab, of Vienna, who gave the history and, with drawings and beautifully prepared microscopical sections, illustrated "The Pathological Anatomy of a Staphylomatous Eye."

At 5 p. m. the Society adjourned to a sumptuous banquet at the grand old castle, where we spent a most delightful evening.

On the morning of the 27th the Congress reassembled, and Dr. Rothmund, of Munich, was called to the chair.

Dr. Berlin, of Stuttgart, made some interesting remarks "Concerning the Operations for Entropion." He did not recommend the grooving of the cartilage, but only the cutting directly through (a simple incision) after having removed an elliptical shaped piece of skin and muscle, and stitching the edges of the wound together. In partial distichiasis he only made the incision as far as the lashes were involved. Drs. Knapp, Alexander and Just discussed the subject at length, and spoke of the various forms of lid clamps. As far as our experience goes, in many cases the grooving of the cartilage has been found the best method.

Dr. Schmidt, of Marberg, narrated two cases where, in so-called "phthisis bulbi," the sight and field of vision remained unchanged, while the globe diminished in size; hence he proposed "ophthalmomatactia" as the correct name.

Professor Becker showed an instrument, called a "centremetre," for determining the centre as well as focal distance of any glass. Also some drawings of sections of an emmetropic, hyperopic and myopic eye-ball, and a graduated scale for accurately making all sketches of the globe. Also an instrument which, to be fully understood, must be minutely described or demonstrated, as well as explained. It was to demonstrate, by the interposition of a glass box filled with an opaque fluid (nitrate of silver in water) between the retina (represented by a ground glass screen) and various lenses, the changes taking place in the bundles of rays (as if) within an eye, whether myopic, hyperopic or astigmatic. Instead of requiring to put the lenses into water, as according to the old plan, this method is dry, and the bundles of rays may be seen (in the fluid) arranging themselves and their effect (outside) upon the (screen) retina as well, whilst by lenses you alter the conditions, to illustrate any anomaly of refraction that you may fancy. This apparatus is of indispensable value to the student of "Donders."

Dr. Klein, of Vienna, showed a modification of Wecker's cataract knife, one surface of the blade being concave and the other correspondingly convex.

Dr. Czerny showed an instrument for taking the measurements of the globe and orbit. A simple rule measure answers the same purpose. And Dr. Krüger, of Friburg, an instrument (like a ticket punch) for removing a piece of

iris or membrane which might close the pupil. A Kneif-zänge or iridectomy punch.

Professor Horner next spoke of the various forms of "keratitis," and, in hypopyon and ulcerous keratitis, recommended brushing the cornea with aqua chlorini three or four times daily. Professor Arlt recommended Saemish's operation of slitting the cornea (with us, of the cases which were so treated, we lost every one, whilst dividing the outer layers of the infiltrated cornea was generally attended with good results).

The Society went into secret session after 2 p. m., and re-elected its officers, and at 3 p. m. Dr. Manz, of Freiburg, made some interesting remarks "Concerning the Appearance of the Optic Nerve and Retina in Congestion of the Brain and Cerebro-Spinal Meningitis."

Dr. Knapp, of New York, presented a tumor which he stated sprung from the sheath of the optic nerve, and was removed entire by resection of a portion of the nerve without removing the eye. Recovery, and eye remained unchanged, except dilatation of the pupil.

Professor Leber thought that the tumor of the optic nerve Dr. Knapp had extirpated might primarily have developed in the orbit, and affected the nerve secondarily.

Dr. Knapp replied that this supposition was highly improbable, as the sheath of the optic nerve showed by its peculiar disintegration that the tumor originated in it. Furthermore, the condition of the specimen was in perfect harmony with the description of the nine cases of tumors of the optic nerve hitherto on record. No further doubt was expressed.

(A note received from Dr. Knapp, November 12th, states:—"The operation on the said tumor was a perfect success. There is now complete atrophy of the optic disc and retinal blood-vessels, and some other nutritive changes in the background of the eyes, but the globe itself has not lost its normal shape and tension, nor the cornea its brilliancy. The exophthalmus has disappeared, and the patient has been entirely free from pain."—K.)

After a short farewell speech by Professor Donders the meeting adjourned until next year.

Yours truly,
C. S. TURNBULL, M. D.

NEWS AND MISCELLANY.

Wanted.

The undersigned will pay the full price for one copy each of volume xx and xxi of *Transactions of American Medical Association*.

Wm. B. ATKINSON, *Perm't Sec.*,
1400 Pine st., Phila.

Small-pox and Yellow Fever.

—The small-pox prevails in Montreal, and is increasing there. The Hotel Dieu and the General Hospital are overcrowded with the

sick, and a house has been taken for additional accommodation. Ten patients were received in this house in two days.

—Private advices from Charleston, inform us that the yellow fever has been much more severe there than has been reported in the public prints. In spite of the lateness of the season, it continued late into this month.

It is announced, however, by the Charleston *News and Courier*, on the authority of leading physicians, that the yellow fever has entirely disappeared from Charleston since the cold weather set in, and that the city can now be visited without danger by the unacclimated.

Personal.

—Dr. William Parker, of Connellsburg, Pa., who was arrested on the 6th of October, on the charge of using the United States mails to defraud members of the British Parliament, was committed in default of \$2000 bail to appear before the next term of the U. S. Court at Pittsburg. He had written them, saying a sick relative of theirs was at his house, and needed money.

—Dr. M. A. Shields, aged thirty-one, committed suicide at Hampton, Va., on November 10th, by taking poison. He is supposed to have been temporarily insane. He leaves a wife and two children.

OBITUARY.

PROFESSOR ROBERT E. GRANT.

Well known as an investigator, teacher and author, in the department of Comparative Anatomy and Physiology, died in London, on the 23d of August last, in the 81st year of his age.

Born in Edinburgh, Dr. Grant obtained his diploma of M. D. in the University of that city, and at an early age commenced his practice there. In 1827, on the establishment of the University College, in London, he accepted the chair of Comparative Anatomy and Zoology, which he occupied for a considerable time. His publications were principally in the *Transactions of the Zoological Society of London*.

A notice in *Nature* states that during the forty-six years in which he held his professorship, and almost up to the time of his death, he never missed a single lecture.

Dr. Grant left his extensive library and all his private collections to the University College, together with a sum of money to be employed in maintaining and extending the zoological department of the library.—*Harper's Weekly*.

MARRIAGES.

BOOK—ECKER.—On Wednesday evening, October 28th, by the Rev. Thomas Yocom, Dr. J. B. Book, of Detroit, Michigan, and Alice, daughter of Thomas F. Eckert, of Cincinnati, O.

DEATHS.

CORNELL.—In Cincinnati, Ohio, on Monday the 9th inst., Stephen Birdsall, youngest son of Dr. T. F. and Mary A. Cornell, aged 1 year and 2 months.